

2	SITE ASPECTS	2.3 EMISSIONS FROM THE SITE	
		SA 14 NOISE FROM BUILDING EQUIPMENT	
	EXCLUSIONS	None.	
	OBJECTIVE	Encourage proactive design techniques intended to reduce the nuisance caused to neighbours by noise from building services equipment.	
	CREDITS ATTAINABLE	1	
	PREREQUISITES	Compliance with the Noise Control Ordinance and Subsidiary Regulations.	
	CREDIT REQUIREMENT	1 credit for demonstrating the level of the intruding noise at the facade of the potential noise sensitive receivers is in compliance with the criteria recommended in the Hong Kong Planning Standards and Guidelines.	
	ASSESSMENT	<p>On the basis of promoting good environmental design assessment shall assume that a noise sensitive development already exists or has the potential to exist and be affected by the building. Ideally, therefore, assessment should be made at the facade of the potential noise sensitive receivers.</p> <p>The noise assessments shall be conducted in accordance with the Technical Memorandum [1]. This lays down statutory Acceptable Noise Levels (ANL). However, in order to plan for a better environment, all fixed noise sources should be located and designed so that when assessed in accordance with the Technical Memorandum, the level of the intruding noise at the facade of the nearest sensitive receiver should be at least 5 dB(A) below the appropriate ANL shown in Table 3 of the Technical Memorandum or, in the case of the background being 5 dB(A) lower than the ANL, should not be higher than the background, in accordance with paragraph 4.2.13, Chapter 9 of the Hong Kong Planning Standards and Guidelines [2].</p> <p>The Client shall provide evidence in form of detailed analysis, appropriate calculations and/or measurements that the building complies with the assessment criteria.</p>	<div>1</div> <div>2</div> <div>3</div> <div>4</div>
	BACKGROUND	<p>Noise emission from equipment on and around buildings contributes to noise pollution with potential impacts on neighbouring properties. Under the Noise Control Ordinance noise emanating from certain types of premises is controlled by means of Noise Abatement Notices which may be served on owners or occupiers of offending premises if the noise emitted:</p> <ul style="list-style-type: none"> • does not comply with the ANLs as set out in a technical memorandum; • is a source of annoyance to any person other than persons on the premises; and • does not comply with any standard or limit contained in any current Regulations. 	

1 Environmental Protection Department. Technical Memorandum for the Assessment of Noise from Places Other than Domestic Premises, Public Places or Construction Sites.
http://www.epd.gov.hk/epd/english/environmentinhk/noise/guide_ref/files/tm_nondomestic.pdf

2 Hong Kong Planning Standards and Guidelines, Chapter 9 Environment
http://www.pland.gov.hk/pland_en/tech_doc/hkpsg/full/ch9/ch9_text.htm

In practice the Authority will respond to complaints and compliance with the ANLs will be required only after a Noise Abatement Notice has been served. Non-compliance with such a notice will be an offence. The Technical Memorandum [1] contains the technical procedures that should be adopted by the Authority when investigating a complaint regarding noise emanating from such premises to determine whether or not a noise abatement notice should be issued.

BS 4142 [3] suggests methods for noise prediction and a generalised description of prediction is given in ISO 9613-2 [4]. Good practices on building services system noise control are published by the Environmental Protection Department [5,6].

- 3 British Standards Institution. Method for rating industrial noise affecting mixed residential and industrial areas. British Standard BS 4142:1997. London, BSI, 1997.
- 4 International Standards Organisation. ISO 9613-2. Attenuation of Sound During Propagation Outdoors Part 2. General Method of Calculation 1st Ed. 1996.
- 5 Environmental Protection Department. Good practices on pumping system noise control. 2005.
http://www.epd.gov.hk/epd/english/environmentinhk/noise/guide_ref/files/Pump_sys_E-06.pdf
- 6 Environmental Protection Department. Good practices on ventilation system noise control. 2006.
http://www.epd.gov.hk/epd/english/environmentinhk/noise/guide_ref/files/Vent_sys_E-06.pdf



Circular Letter No.: 2024.207

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Application: BEAM Plus NB Version 1.1 and 1.2

Effective Date: 30 May 2024

SA 14 Noise from Building Equipment

1. The Technical Circular Letter hereby clarify the assessment requirements of noise prediction/ assessment from building equipment for **SA 14 Noise from Building Equipment** under BEAM Plus NB v1.1 and v1.2.
2. With reference to the “Technical Memorandum for the Assessment of Noise from Places Other than Domestic Premises, Public Places or Construction Sites” and Noise Control Ordinance (NCO) (Cap. 400), noise emanating from domestic units does not fall under the purview of the Technical Memorandum, therefore, equipment in domestic units (i.e. domestic unit(s) in a residential building of the public/ private housing development and government quarters) should not be included in the assessment.
3. All major noise generating equipment in place other than domestic units in a residential building of public/ private housing development and government quarters should be assessed.

- For areas served by central air-conditioning and ventilation systems, the major noise sources include air-cooled chillers, water cooling towers, air-cooled heat pumps, and axial and centrifugal fans ($\geq 2.5\text{kW}$ each).
 - For areas served by de-centralised air-conditioning and ventilation systems, the major noise sources include outdoor air-conditioning units (with rated cooling capacity $> 7.1\text{kW}$) and ventilating fans (i.e. axial and centrifugal fans $\geq 2.5\text{kW}$ each).
4. The compliance could be demonstrated by calculations and/ or measurements. If on-site measurement is opted for, compliance should be demonstrated by direct measurement of the intruding noise at the nearest location(s) of the representative noise sensitive receivers. Alternatively, under circumstances that access to the noise sensitive development is not granted for measurement, a combination of measurement at a nearby location with calculation adjustment, or a combination of sound power measurement at the intruding noise source and prediction of the noise level at the noise sensitive receivers based on the measured sound power and standard noise propagation equation, are permitted.
5. For (a) buildings without major noise generating equipment in place other than domestic units in a residential building of public/ private housing development and government quarters (as defined in the above point 3); OR (b) buildings without existing and planned noise sensitive receivers within 300 meters measured from the nearest point of the assessment boundary for the project site, the credit could be not applicable. The Applicant shall submit evidence in the form of:

- Information (e.g. equipment schedule showing equipment type, cooling capacity/ power rating, etc.) showing no provision of major noise generating equipment as defined in the above point 3, for case (a); and
 - A map of the project site and its surroundings, with clear illustration showing no existing and planned noise sensitive receivers within 300 meters measured from the nearest point of the assessment boundary for the project site, for case (b).

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6. Approved PA projects: For projects that have already completed PA and have certain assessment approach approved, the Applicant may opt to adopt the same assessment criteria for FA or voluntarily comply with this Technical Circular Letter. For the avoidance of doubt, the Applicant shall provide PA evidence (e.g., extract of the PA report, documents submitted for assessment in PA, etc.) in subsequent assessments to support the intention of using the same assessment methodology as in PA.



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